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ENVIRONMENTAL ASSESSMENT

PROPOSED

OPENING of HUNTING

for

TRINITY RIVER NATIONAL WILDLIFE REFUGE

Liberty County

Texas

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TRINITY RIVER NATIONAL WILDLIFE REFUGE **DRAFT**

ENVIRONMENTAL ASSESSMENT

I. Purpose and Need for Action

The purpose of the proposed action is to permit hunting on the Trinity River National Wildlife Refuge (NWR), Liberty County, Texas. Hunting in the context of this environmental assessment is defined as **Big Game and Upland Game Hunting**. Waterfowl hunting is currently authorized and on-going. In order to meet specific Refuge and other broader U. S. Fish and Wildlife Service (Service) directives, the following purposes were established for Trinity River NWR:

"...the conservation of wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions..." (Emergency Wetlands Restoration Act of 1986).

"... for use as an inviolate sanctuary, or for any other management purposes, for migratory birds." 16 U.S.C. 715d (Migratory Bird Conservation Act).

In addition to the stated purpose of the refuge, additional goals were also established under the original 1992 Trinity River NWR Environmental Assessment as follows:

1. Habitat - protect, restore and enhance the bottomland hardwood ecosystem.
2. Biological Diversity - preserve the natural diversity and variety of biotic communities occurring on refuge lands.
3. Wildlife - provide protection and maintenance for fish and wildlife resources, including endangered species, migratory birds, and native wildlife.
4. Research - provide opportunities for research.
5. Interpretation - provide opportunities for the public to view, appreciate, and understand wildlife, and to provide an understanding of man's role in the environment.
6. Recreation - provide quality wildlife-oriented recreation (both consumptive and non-consumptive uses) within the framework of appropriate State and Federal laws.

In 1999 the Trinity River Habitat Stewardship Program was developed and approved to include additional goals and objectives. They include:

1. To protect, enhance, and restore the natural diversity of the Lower Trinity River Floodplain on and off Refuge lands through (1) land acquisition and/or conservation easements when appropriate; (2) the management of habitat and wildlife resources on Refuge lands; and (3) by strengthening existing and establishing new cooperative efforts with the public, private conservation groups, and other governmental agencies.
2. To provide for wildlife dependent public recreation as mandated by and according to Service policy on the Trinity River NWR that results in furthering the public's understanding and appreciation of the bottomland hardwood forest ecosystem and the National Wildlife Refuge System.
3. To protect, maintain, and plan for Service managed cultural resources on the Trinity River NWR for the benefit of present and future generations and in compliance with historic and archeological resource protection laws and regulations.

As a management objective, hunting provides the public with an opportunity to utilize a renewable resource. Hunting is compatible with Refuge purpose and mission of the system and is in the public's interest on Trinity River NWR as described under the National Wildlife Refuge System Improvement Act of 1997.

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II. Alternatives

The proposed action will allow the public to hunt on Trinity River NWR according to established regulations. Three Alternatives were considered for Big Game and Upland Game hunting on the Refuge. They included:

- A. No Action
- B. Limited Hunting (during State seasons)
- C. Open Hunting (during State seasons)

Criteria for evaluation of alternatives include:

- 1. Compatibility with Refuge purposes
- 2. Inviting public comment in planning process
- 3. Refuge cost

A. No Action Alternative

Under Alternative A, hunting would be closed on Trinity River NWR. This would result in the loss of a recreational opportunity that is compatible with Refuge purposes. Implementation of this Alternative would generally not be in compliance with the Improvement Act of 1997 in regards to compatible public recreation. There would be no additional cost to the Refuge under this alternative.

B. Controlled Hunting (during State seasons)

Alternative B will allow **controlled** participation to hunt on Trinity River NWR using restricted methods such as: assigning hunters through lottery draws; allowing only certain species to be hunted; allowing hunting on limited days; or limiting tracts or time periods between Big Game and Upland Game hunting. The proposed hunting program is designed to contribute to, or be compatible with, Refuge objectives. It would provide high quality recreation to the general public and the opportunity to utilize a renewable resource. It could also maintain some wildlife populations at optimum levels. The seasons, species, and bag limits will be within the framework of the Texas Parks and Wildlife Department's (TPWD) regular state seasons and further regulated by Refuge regulations according to Fish and Wildlife Service policy. Refuge management goals and objectives may require occasional modifications to the hunting program as harvest data, public use pressure, and Refuge programs, are developed. As currently proposed, it is estimated that Refuge costs would be about \$15,000 per year, for Big Game and Upland Game hunting for law enforcement, program implementation, facility maintenance, and compliance checks under Alternative B. Under this Alternative, the two Refuge staff Law Enforcement Officers **will** be able to monitor each day the hunt is in progress. They will randomly check hunters in or out over the various units that are open for the season.

For *Refuge-Specific Regulations*, reference Section E.

C. Open Hunting (during State seasons)

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Alternative C will allow virtually unrestricted hunting to all participants who show up at Trinity River NWR during the entire State regulated season. This Alternative could imply that year-round is allowed as hog hunting has no defined season and that the entire Refuge would be open to hunting. The seasons, species, and bag limits will be within the framework of the TPWD's regular state seasons and further regulated by Refuge regulations according to Fish and Wildlife Service policy. Refuge management goals and objectives may require occasional modifications to the hunting program as harvest data, public use pressure, and Refuge programs, are developed. As currently proposed, it is estimated that Refuge costs would be about \$50,000 per year, for Big Game and Upland Game hunting for law enforcement, program implementation, facility maintenance, and compliance checks under Alternative C. Under this Alternative, the two Refuge staff Law Enforcement Officers **would not** be able to monitor each day the hunt is in progress. The State regulated season lasts over 100 days (even if hog hunting was only allowed during that period). Substantial overtime would be necessary or the hiring of temporary staff would be needed. Staff will randomly check hunters in or out over the various units that are open for the season. Due to the nature of the frequently flooded and rutted dirt roads and parking areas, constant maintenance would be necessary to minimize erosion and vehicle safety.

For *Refuge-Specific Regulations*, reference Section E.

III. Description of the Affected Environment

Trinity River NWR is located on various tracts of land along the floodplain of the lower Trinity River in Liberty County, Texas. It is one of over 540 NWRs located nationwide and administered by the Service. The Refuge was established January 4, 1994 by the Emergency Wetlands Resources Act of 1986, for the purpose of protecting a remnant of the bottomland hardwood forest ecosystem along the Trinity River. It is one of only 14 priority-one bottomland sites identified for protection in the Texas Bottomland Protection Plan. Additionally, this Refuge is highly valuable for a diversity of waterfowl species. This type of habitat is used during migration or nesting by nearly 50 percent of the neotropical migratory bird species listed by the Service.

The total current acreage of Trinity River NWR is approximately 18,000 acres. Of that total, approximately 500 acres consist of ridges, upland timber, right-of-ways, and former hayfields, while the remaining 17,500 acres is bottomland hardwood forest and open water. The project site is the remnant of what was once a much larger natural area and still consists of a broad, flat floodplain with numerous sloughs, oxbow lakes, cypress/tupelo swamps, artesian wells and tributaries, with few modifications. Timber harvest, gravel mining, and residential and commercial development are imminent threats to the stability of this system, due to the close proximity to Houston and other nearby metropolitan areas.

With total anticipated acquisition of nearly 80,000 acres, the principle value of Trinity River NWR lies in its potential as an outstanding waterfowl wintering area and as a strategically located stop-over, either migrating or nesting, for neotropical migratory bird species. The Refuge is about 45 miles east of Houston, and although located in a very rural setting, it is within 65 miles of over 4,000,000 people.

Lands in Liberty County, specifically those in the proposed acquisition area around the Trinity River, are primarily used for timber or agriculture. Along with many older bottomland hardwood areas, there are also tree (primarily pine) plantations on drier sites. It is evident that an increasing number of Texas landowners, typical of those in Liberty County, are thinking of forestry as an agricultural crop, rather than of harvesting and gathering the natural woods already in place. What it could indicate for the future is that some of the natural forests in Liberty and other similar bottomland counties, will be replaced with tree plantations for easier and faster harvesting.

In Liberty County the long summers are hot and humid. Winters are cool and are only occasionally interrupted by short periods of cold air from the north. Rainfall generally occurs throughout the year, although monthly amounts increase during winter and spring. Average annual precipitation in Liberty county over the last 15 years is about 62 inches. The average relative humidity in mid-afternoon is about 60 percent.

Over 80% of the soils within the Refuge boundaries are classified as poorly drained. These soils are subject to flooding annually and are waterlogged in lower areas for long periods. Natural flooding usually occurs in the spring, but has been recorded throughout the year.

Permanent water bodies within the Refuge primarily consist of Champion Lake, Anders Pond, scattered ponds, and some bayous. Approximately 1500 acres of permanent fresh water are available in the Refuge with Champion Lake accounting for 800 acres of that total.

A preliminary contaminant survey of the Refuge was conducted by the Service. The investigation consisted of interviews with State and Federal agencies, a review of pertinent reports and data, samples collected in Champion Lake, and a cursory reconnaissance of the acquisition area.

The principal contaminant concerns relate to oil production and past agricultural practices. There are several pipeline right-of-ways within the Refuge boundary that may one day pose a potential contaminant hazard. Based on past and recent agricultural practices, pesticides should not be of particular concern.

The Lower Trinity River bottomland hardwood floodplain has historically wintered large concentrations of ducks. Mallards, pintails, and other dabblers utilize the basins, flats and depression swales filled with shallow water from winter rains or backwater flooding. Wood ducks are found primarily in the cypress swamps and the permanent water areas contain good concentrations of ring-neck and scaup. Additionally, there are harvestable and sustainable populations of white-tailed deer and feral hogs found throughout the Refuge units.

It has been documented that the Lower Trinity River floodplain contains over 620 plant and over 400 vertebrate species. Bottomland hardwood forests also support abundant populations of white-tailed deer, squirrels, feral hogs, numerous other furbearers, freshwater turtles, alligators, snakes, and the federally listed bald eagle.

IV. Environmental Consequences

This next section addresses the environmental impacts of the no action, limited hunting, and open hunting alternatives as it relates to physical resources, biological resources, recreational resources, socioeconomic resources, Improvement Act of 1997, and cultural resources.

A. No Action - Alternative A

Under this Alternative, hunting would be closed on Trinity River NWR.

a) Physical Resources

Some physical resource impacts currently occurring within the Refuge are due to limited non-point source pollution such as septic tanks from surrounding homes; air borne particles from nearby petrochemical plants; runoff from roads and farms; and over bank flooding from the Trinity River. This alternative would not result in any new physical resource impacts.

b) Biological Resources

Being closed to hunting would minimize most adverse biological effects to flora and fauna.

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c) Recreational Resources

This alternative would not provide the public with an opportunity to utilize a renewable resource although hunting is compatible with Refuge objectives.

d) Socioeconomic Resources

Small businesses in the area would not benefit from hunters buying supplies, food or gas.

e) Improvement Act of 1997

Section 5(a)(3) of the Act states:

"(B) Compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System, directly related to the mission of the System and the purposes of many refuges and which generally fosters refuge management and through which the American public can develop an appreciation for fish and wildlife;

(C) compatible wildlife-dependent recreational uses are the priority general public uses of the System and shall receive priority consideration in refuge planning and management; and

(D) when the Secretary determines that a proposed wildlife-dependent recreational use is compatible within a refuge, that activity should be facilitated, subject to such restrictions or regulations as may be necessary, reasonable and appropriate."

f) Cultural Resources

There are no known cultural resources in areas that may be opened to hunting.

B. Controlled Hunting - Alternative B

Under Alternative B, hunting would be open on Trinity River NWR, with Refuge restrictions noted below.

a) Physical Resources

Physical resource impacts noted in Alternative A would continue under this alternative. Alternative B will increase deterioration of the limited Refuge dirt road system and increase potential pollution from vehicular sources in the form of fumes and oil or radiator leaks from increased hunter usage. In addition to a more complete list of Refuge Specific Regulations listed under Section E, some of the major restricted management practices that would be used to minimize impacts include: 1) controlling the number of hunters (thus less cars); 2) limiting the length of the hunt season; 3) limiting the tracts where hunting could potentially occur, especially on roads/tracts that are constantly flooded during hunt season; and 4) strictly limiting the use of all terrain vehicles.

b) Biological Resources

Some adverse biological impacts will occur during hunting activities to flora and fauna under this alternative. Ways to minimize adverse effects such as noise, trampling, and visual disturbances include many Refuge Specific Regulations listed under Section E such as: 1) controlling the number of hunters (thus less cars); 2) limiting the length of the hunt season; 3) limiting the tracts where hunting could potentially occur, especially on roads/tracts that are constantly flooded during hunt season; 4) strictly limiting the use of all terrain vehicles; and 5) hunting during

daylight hours only. Additionally, increased presence by Refuge staff and law enforcement personnel should help minimize biological impacts to the area through education.

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c) Recreational Resources

Hunting in southeast Texas is what many people do as a way of life. Alternative B would provide a limited opportunity for a wildlife-dependent recreational use of a renewable resource. Controlling the number of hunters, tracts, and hunt days, would allow for a sustained quality hunt.

d) Socioeconomic Resources

Small businesses in the area could benefit from some hunters renting hotels, buying supplies, food or gas under this alternative.

e) Improvement Act of 1997

Section 5(a)(3) of the Act states:

"(B) Compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System, directly related to the mission of the System and the purposes of many refuges and which generally fosters refuge management and through which the American public can develop an appreciation for fish and wildlife;
(C) compatible wildlife-dependent recreational uses are the priority general public uses of the System and shall receive priority consideration in refuge planning and management; and
(D) when the Secretary determines that a proposed wildlife-dependent recreational use is compatible within a refuge, that activity should be facilitated, subject to such restrictions or regulations as may be necessary, reasonable and appropriate."

f) Cultural Resources

There are no known cultural resources in areas that may be opened to hunting.

C. Open Hunting - Alternative C

Under this Alternative, hunting would be open on all tracts of the Trinity River NWR, during the entire State season, seven days a week, with few refuge restrictions and unlimited number of hunters.

a) Physical Resources

Physical resource impacts noted in Alternative A would continue under this alternative. Alternative C will markedly increase deterioration of the limited Refuge dirt road system and increase potential pollution from vehicular sources in the form of fumes and oil or radiator leaks from unlimited hunter usage. Refuge Specific Regulations listed under Section E would be limited under this Alternative.

b) Biological Resources

Significant adverse biological impacts would occur during hunting activities to flora and fauna under this Alternative. Although some ways to minimize major adverse effects would be included under the Refuge Specific Regulations listed in Section E most other restrictions addressing number of hunters, length of hunt season, and limiting which tracts are open would be eliminated under this alternative. Increased presence by Refuge staff and

law enforcement personnel may not be sufficient to minimize biological impacts to the area.

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c) Recreational Resources

Hunting in southeast Texas is what many people do as a way of life. Alternative C would provide an opportunity for a wildlife-dependent recreational use of a renewable resource. Without some limitation of hunters, length of season, and which tracts are opened, degradation of a sustained quality hunt would occur. Being only one hour from Houston and over four million people has the potential to make it very attractive to many hunters.

d) Socioeconomic Resources

Small businesses in the area could benefit from some hunters renting hotels, buying supplies, food or gas under this alternative.

e) Improvement Act of 1997

Section 5(a)(3) of the Act states:

"(B) Compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System, directly related to the mission of the System and the purposes of many refuges and which generally fosters refuge management and through which the American public can develop an appreciation for fish and wildlife;

(C) compatible wildlife-dependent recreational uses are the priority general public uses of the System and shall receive priority consideration in refuge planning and management; and

(D) when the Secretary determines that a proposed wildlife-dependent recreational use is compatible within a refuge, that activity should be facilitated, subject to such restrictions or regulations as may be necessary, reasonable and appropriate."

f) Cultural Resources

There is at least one cultural resource located on a Refuge tract. Under Alternative C, it would be open to hunting, thus could be adversely affected.

V. Consultation and Coordination With Others

Numerous contacts have been made throughout the area of the Refuge soliciting comments, views, and ideas for use in development of the accompanying hunting plan. Public meetings were held in 1996 and 1997 soliciting general comments from hunters and from non-consumptive Refuge users regarding interim management plans for expanding the Refuge. Additionally, a public meeting was held on January 7, 2002 to solicit further comments on Waterfowl hunting which currently exists on the Refuge. At this meeting some references were made to eventually opening the Refuge to other forms of hunting. This Draft Hunting Plan was made available to the general public through a November 18, 2003 public meeting, news releases for review and written comments prior to completing the final plan. The TPWD concurs and supports a hunting program at Trinity River NWR. The Service also provided an in-depth review by Regional Office and staff biologists.

Summary of Impacts by Alternative

Impact Topics	Alternative A No Action	Alternative B Controlled Hunting <i>PREFERRED ALTERNATIVE</i>	Alternative C Open Hunting
Physical Resources	No new impacts.	Some adverse impacts likely, but can be minimized with maintenance and enforcement.	Significant adverse impacts likely, with limited controls for prevention available.
Biological Resources	No effect.	Some adverse effects likely, but can be controlled with refuge specific regulations and enforcement.	Significant adverse impacts could occur due to unlimited hunting and reduced refuge specific regulations.
Recreational Resources	Would not allow a compatible, recreational use.	Would allow a compatible, although limited, recreational use.	Allows greater number of hunters and hunting opportunity, but could reduce quality of hunt.
Socioeconomic Resources	No benefit to area economy.	Modest benefit to area economy.	Greater benefit to area economy as long as quality hunt is maintained.
Improvement Act of 1997	Partially met	Met	Partially met
Cultural Resources	N/A	N/A	Could affect at least one known cultural site.

Based on the review of the three alternatives, *opening the Refuge to Controlled Hunting, Alternative B, was chosen as the preferred alternative.* This alternative was selected because it offers a high quality public hunt with minimal impact on physical and biological resources, while meeting the Congressionally mandated Improvement Act of 1997.